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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,552	03/22/2001	Henry H. Wheeler JR.	7014-101	4477
167	7590	09/08/2005		
FULBRIGHT AND JAWORSKI LLP 555 S. FLOWER STREET, 41ST FLOOR LOS ANGELES, CA 90071				
			EXAMINER	
			SERGENT, RABON A	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,552

Applicant(s)

WHEELER ET AL.

Examiner

Rabon Sergeant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-17, 23-34 and 36-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-17, 23-34, and 36-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15-17 and 47 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the mixing block. Applicants have claimed a device for mixing and spraying; however, the claimed elements of the device do not provide or allow for the required mixing of components. The last line of page 12 of the specification specifically states that mixing occurs within the aforementioned mixing block. Accordingly, an essential element has been omitted.

3. Claims 37-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants have failed to adequately define the terminology, "substantially leak-proof". It cannot be determined what degree of leaking is provided for in view of the use of "substantially". It cannot be determined if the language provides for liners that are completely fluid-tight or leak-proof. The definition must be clear since applicants have relied upon this language to overcome the prior art rejection.

4. Claims 37-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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As aforementioned within paragraph 3, it is unclear what degree of leak-proofness or impermeability is provided for by the language, "substantially leak-proof". It cannot be determined what level of permeability may be present and still satisfy the claim language.

5. Claims 15-17 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a nozzle having a tip diameter of 0.21 to 0.45 thousandths of an inch, does not reasonably provide enablement for nozzles having smaller tip diameters. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. Applicants have disclosed that the aforementioned feature is a characteristic of the nozzle and have failed to provide enablement for the use of smaller tip diameters. The position is taken that the skilled artisan could not practice the invention as claimed without resorting to undue experimentation. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). The examiner has found no disclosure to support applicants' argument that the nozzle having the argued tip dimension constitutes a separate embodiment from a nozzle lacking the argued dimension.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-3, 5, 7, 10-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotschwar ('575).

Patentee discloses two-component sprayable polyurethane compositions, wherein a fiber reinforcing material is added to the polyol component, before the polyol component is mixed with the polyisocyanate component and ejected through a spray nozzle. Patentee additionally discloses quantities of fiber material and heating of the components. See abstract; column 2, lines 25+; column 7, lines 30+; column 8; and column 9, lines 61+. Furthermore, patentee discloses at column 9, lines 19-27 that structural fiber reinforced products may be produced by adding water to the composition so as to produce a foam, and further that the foam may be sandwiched between two layers of the fiber-reinforced material.

8. Though patentee discloses heating of the components, patentee is silent with respect to heating the polyol component prior to addition of the fiber filler. However, the position is taken that it would have been obvious to one seeking to add the fibers to the polyol component, in accordance with the teachings of the reference, to heat the polyol

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component before addition of the fibers, so as to reduce the viscosity of the polyol to facilitate the wetting and blending of the fibers within the polyol and to reduce the effort required to transport the blended polyol. This position is supported by the previously relied upon citations and the disclosure at column 2, lines 45-57, which pertains to the relationship between elevated temperature, polyol viscosity, and wetting of the filler.

Contrary to applicants' argument that nothing in the reference supports the examiner's position, the benefit of heating the polyol prior to adding the fibers stems from these teachings and would have been obvious to one of ordinary skill in the art (i.e.; a process or chemical engineer).

9. Claims 4, 6, 9, 13, 23-34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotschwar ('575), further in view of Cotts et al. ('569) and Brown ('969) and Domeier ('579).

As aforementioned, Kotschwar disclose sprayable polyurethane fiber reinforced compositions and their use in the production of reinforced structural laminates; however, patentee fails to teach such features as the prewetting of the fibers, the use of a 1:1 volumetric ratio, the mixing of the fibers into both the polyol and the polyisocyanate sides, and the coating of an existing reinforcement structure with a foamed reinforced composition, and the subsequent coating with a non-foamed fiber reinforced composition. Still, the position is taken that each of the aforementioned features constitutes an obvious modification of Kotschwar, well within the capabilities of the skilled artisan, especially when on considers the teachings of the secondary references, each drawn to incorporating fibrous reinforcements within polyurethanes. Specifically, the prewetting of the fibers would have been obvious, as one would have expected the wetted fibers to be more

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compatible with the components. This position is supported by the teachings of Brown at column 2, lines 42+. Additionally, it would have been obvious to operate at a 1:1 volumetric ratio, because such a ratio would have simplified the delivery and metering of the components through the system. Also, the position is taken that it would have been obvious to incorporate the fibers into either or both sides of the composition, depending on preference; Brown (column 3, lines 8-10) and Domeier (column 9, lines 32-34) disclose that the fibers may be added to the polyol side, the polyisocyanate side, or both sides. Lastly, the disclosure of Kotschwar at column 9, lines 19-27 is considered to render applicants' coating of an existing structure with both a reinforced foam and a reinforced non-foamed material obvious. Despite applicants' arguments within the response, this disclosure clearly suggests to one of ordinary skill that reinforcement may be present in any layer of the composite, whether it is foamed or not.

10. Though Kotschwar discloses several suitable fiber materials, patentee is silent regarding the use of KEVLAR; however, the use of KEVLAR within polyurethanes to increase physical properties was known at the time of invention. This position is supported by the teachings of Cotts et al. (abstract) and Domeier (column 7, lines 26-41). As a result, the position is further taken that it would have been obvious to utilize KEVLAR as the fiber reinforcing material within Kotschwar, so as to arrive at the instant invention.

11. Applicants' arguments have been considered; however, the position is maintained that the use of KEVLAR fiber within sprayable polyurethane compositions would have been *prima facie* obvious. The primary reference provides extensive guidance for the use of fiber materials within his composition and the secondary references exemplify that the

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use of KEVLAR yields beneficial properties when incorporated within a polyurethane. Therefore, when considered together, there exists ample motivation to incorporate KEVLAR within the compositions of Kotschwar. Applicants' arguments with respect to the sequence of heating the reactants and adding the fiber material have been addressed within paragraph 8.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

R. Sergent
September 5, 2005


RABON SERGENT
PRIMARY EXAMINER